

### **REMARKS**

Review and reconsideration of the final Office Action mailed June 16, 2009 (the "Office Action"), is respectfully requested in view of the above amendments and the following remarks. This Amendment is accompanied by credit card authorization to charge the \$810 fee for a request for continued examination. Although no additional fees are believed due, the Commissioner is hereby authorized to charge any deficiency or credit any surplus to Deposit Account No. 14-1437.

At the time of the Office Action, claims 1, 4 and 7-35 were pending, with claims 1, 4, 7-23 and 30-35 being drawn to an elected invention. All claims were rejected under 35 U.S.C. §103(a) and claims 19 and 20 were objected to for being dependent claims that failed to further limit the subject matter of a previous claim. By this Amendment, claims 1 & 31-35 are amended and claims 4, 19, 20 & 30 are canceled. Claim 1 is amended to incorporate the subject matter of cancelled claims 4 and 30. No new matter is added.

The amendments presented herein have been made solely to expedite prosecution of the instant application to allowance and should not be construed as an indication of Applicants' agreement with or acquiescence to the Examiner's position. Accordingly, Applicants expressly maintain the right to pursue broader subject matter through subsequent amendments, continuation or divisional applications, reexamination or reissue proceedings, and all other available means. The amendments and rejections are addressed below in more detail.

#### **Claim Rejection - 35 U.S.C. §103**

Claims 1, 4, 7-12, 17-22 and 30-35 are rejected under 35 U.S.C. §103(a) as being obvious in view of U.S. Patent No. 3,421,901 issued to Mahlmann *et al.* (hereinafter "Mahlmann") in view of Japanese Publication No. 2003-144050 by Okada *et al.* (hereinafter "Okada"). Prior to addressing the cited references, Applicants wish to review the subject matter of amended claim 1, which is drawn to:

1. (currently amended) A method of extracting volatile components applicable for a food or drink by which volatile components are obtained by steam extraction of tasty materials, the method comprising:
  - directing steam into contact with the tasty material; [[and]]
  - recovering the steam after said directing steam into contact, wherein the steam extraction is carried out using super heated steam that is set to a temperature higher than 140°C but no higher than 500°C, wherein a steam flow rate of 0.3 to 30 kg/h is used per 1 kg of tasty material, wherein said directing into contact steam is carried out for 5 to 60

minutes, [[and]] wherein a recovery rate of the volatile components by the steam extraction is 0.01 to 10% by weight as a solid with respect to the tasty material, and wherein the super heated steam is used at normal pressure; obtaining an aqueous extract by water extraction of the tasty material following the steam extraction; and mixing the aqueous extract and the volatile components.

Amended claim 1 is drawn to a method of extracting volatile components obtained by steam extraction from tasty materials. The method includes directing steam into contact with the tasty material; and recovering the steam after said directing steam into contact. The steam extraction is carried out using super heated steam at normal pressure (i.e., one atmosphere) that is set to a temperature higher than 140°C but no higher than 500°C and the steam flow rate is 0.3 to 30 kg/hr per 1 kg of tasty material. The directing step is carried out for 5 to 60 minutes and the recovery rate of the volatile components by the steam extraction is 0.01 to 10% by weight as a solid with respect to the tasty material. Following the steam extraction, an aqueous extract of the tasty material is obtained. The aqueous extract and the volatile components are then mixed.

One feature of the claimed method is that the steam extraction is carried out using super heated steam that is set to a temperature higher than 140°C but no higher than 500°C at normal pressure. The extracted volatile components are desirable and applicable for use in food or drinks. The normal pressure is  $1.01325 \times 10^5$  Pa or 1 atmosphere as described in the Specification at Page 6, line 35 - Page 7, line 1.

A second feature of interest is that the claimed method further comprises obtaining an aqueous extract by water extraction of the tasty material following the steam extraction, and mixing the aqueous extract and the volatile components.

Mahlmann discloses producing aromatic soluble coffee. Steam is introduced into ground roasted coffee to wet the grounds and liberate volatile constituents at a pressure which is at or above atmospheric and for a period of at least 25 minutes. The volatile constituents are vapors exiting from the bed of coffee at a temperature of between 180 to 230°F (82 to 110°C). *See* Mahlmann, Col. 2, lines 21-34.

Contrary to the claimed method, Mahlmann discloses that the pressure of steam introduced into the coffee is 5 to 10 psig, namely 0.34 to 0.68 atm gauge or 0.0034 to 0.0068 MPa gauge. *See*

Mahlmann, Col. 6, line 34. Thus, Mahlmann clearly fails to disclose the use of steam having a temperature of 82 to 110°C at an atmospheric pressure.

Accordingly, Mahlmann fails to disclose and suggest the claimed method including super heated steam having a temperature from 140°C to 500°C at normal pressure to extract volatile components applicable for a food or drink. Mahlmann also fails to disclose mixing the volatile components with the aqueous extract obtained after the steam extraction.

Okada discloses a method for removing unpleasant smells derived from raw coffee beans to produce roasted coffee beans exhibiting a desirable smell using steam at a temperature ranging between 200°C and 400°C. Okada, Paragraph [0010]. As described in paragraph [0034], saturated vapor having a pressure of 2 to 5 kPa gauge is heated to 300 °C to generate high temperature heating steam. Coffee beans are roasted by the high temperature heating steam for a period of time from 5 minutes 30 seconds to 9 minutes 30 seconds as shown in Table 1. According to the description of paragraphs [0045]-[0047], coffee drinks extracted from the coffee beans processed by the high temperature heating steam do not have unpleasant smell.

Okada discloses the use of high temperature steam at an atmospheric pressure for removing unpleasant smells from coffee beans. As Okada deals with removal of undesirable smells, Okada emphasizes that in order to produce “savory roast coffee beans,” the heated steam contacted with the raw coffee beans is discharged to the atmosphere without steam recycling. Okada, Paragraph [0014], [0018], [0019] & [0027]. From this it is clear that the unpleasant smell extracted from the coffee beans is undesirable and would not be captured for use with food or drinks. Thus, the Okada's method is totally different from the claimed method and fails to disclose and teach the claimed features.

Furthermore, a person of ordinary skill in the art would understand that the settings and considerations used to roast raw coffee beans (*i.e.*, develop desirable flavors in the coffee beans), as in Okada, are completely different from those used to extract desirable flavors from coffee beans, as in Mahlmann. The roasting process disclosed in Okada is used to remove undesirable flavors, while retaining desirable flavors within the roasted coffee beans. In contrast, the extraction process of Mahlmann is used to extract desirable flavor compounds from the coffee beans. Thus, a person of ordinary skill in the art would understand that the conditions disclosed in Mahlmann and Okada are different because they are used for completely different purposes.

In summary, Mahlmann teaches that steam at a temperature of 82 to 110°C can be used to extract desirable volatile components from coffee beans, while Okada teaches that undesirable components are removed, or stripped, from coffee beans by contacting them with steam at higher temperatures. In fact, Okada teaches that the higher temperature steam should be discharged to the atmosphere and that steam recycling should be avoided so that the undesirable smells are eliminated from the coffee beans. Thus, Okada clearly teaches away from the claimed process, which recovers super heated steam that is set to a temperature higher than 140°C but no higher than 500°C that is contacted with a tasty material. Accordingly, there would be no motivation to combine the cited references in order to produce the claimed method.

Clearly, no combination of the cited references, whether alone or in combination, discloses or suggests the claimed method. Furthermore, the cited references teach away from the claimed method and fail to disclose important limitations. In view of the foregoing, it is respectfully requested that the rejection based on the combination of Mahlmann and Okada be withdrawn.

Claims 13-14 are rejected under 35 U.S.C. §103(a) as being obvious in view of Mahlmann and Okada, further in view of U.S. Patent No. 5,417,993 by Takano (hereinafter "Takano"); Claims 15-16 are rejected under 35 U.S.C. §103(a) as being obvious in view of Mahlmann and Okada, further in view of Japanese Publication No. 2003-0033137 by Kazuyuki Yamashita *et al.* (hereinafter "Kazuyuki Yamashita"); and Claim 23 is rejected under 35 U.S.C. §103(a) as being obvious in view of Mahlmann and Okada, further in view of U.S. Patent No. 6,231,907 by Kino *et al.* (hereinafter "Kino")

Takano discloses heating vapor under normal pressure to about 80 to 120 °C. However, Takano *et al.* fail to disclose and teach using the claimed features.

Kazuyuki Yamashita discloses extracting volatile components by steam distillation and obtaining the volatile components after steaming. However, Yamashita *et al.* fail to disclose and teach using the claimed features.

Kino discloses using deoxygenated water coffee processing for the purpose of providing high quality coffee. However, Kino *et al.* fail to disclose and teach using the claimed features.

As none of these references correct the deficiencies identified with respect to the rejection of claim 1, Applicants respectfully request that the rejections based on combinations of Mahlmann, Okada, Takano, Kazuyuki Yamashita and Kino be withdrawn.

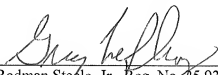
**Conclusion**

For at least the reasons set forth above, the independent claims are believed to be allowable. In addition, the dependent claims are believed to be allowable due to their dependence on an allowable base claim and for further features recited therein. The application is believed to be in condition for immediate allowance. If any issues remain outstanding, Applicant invites the Examiner to call the undersigned (561-838-5229 x228) if it is believed that a telephone interview would expedite the prosecution of the application to an allowance.

Respectfully submitted,

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